Introducing a new course - Alignment Fundamentals

What is this course?

The Alignment Fundamentals course covers all aspects of basic shaft alignment – it defines the types of misalignment and the problems caused by misalignment. You will learn the skills you need to identify alignment-related symptoms, how to accurately perform and document rim & face or reverse dial indicator techniques, what tools are used for alignment, and how to prepare a machine and its foundation.

Alignment tool used in this course.

Why should I attend this course?

Up to 70% of machinery problems are alignment-related. Misaligned machinery increases your annual energy costs, preloads rolling element bearings, and drastically reduces their operating lifespans. Misalignment also directly reduces fluid-film bearing clearance, reduces shaft fatigue life, and increases the incidence of rubs, coupling and seal wear/failures, and undesirable vibration. This course is suitable for mechanics, millwrights, machinists, operators, and engineers who work with rotating or reciprocat-ing machinery. Effective identification and correction of alignment problems is an essential part of a machinery management program, and Bently Nevada is pleased to be able to teach this important skill.

Topics presented during this 3-day course include:

• *Problems caused by misalignment* - Learn how to identify problems, such as high vibration, high bearing temperature, and bearing, seal, and coupling failures.

• *Vibration characteristics* - Identify specific vibration characteristics associated with alignment-related malfunctions.

• *Pre-alignment checks* - Discover how to check for soft foot, bent shafts, piping strain, and various foundation problems.

• *Field measurements* - Practice taking alignment measurements and compensating for bar-sag. Learn how to check for axial travel and how to verify readings.

• *Alignment calculations* - Learn how to calculate and graphically plot alignment conditions for both parallel and angular misalignment. You will also be able to calculate alignment accuracy.

• *Couplings* - Understand the selection criteria for different types of couplings, their advantages, and coupling hub installation techniques.

• *Target indicator readings* – Learn how to calculate and measure the ther-mal growth of machinery. Practice superimposing thermal growth values on an alignment map, and learn how to extract target dial indicator readings that will result in optimum hot alignment.

Plenty of hands-on experience

Recording and plotting graphical solutions for reverse dial indicator readings are thoroughly discussed and reinforced with plenty of hands-on experience, using shaft alignment trainers. You will learn how to compensate for thermal growth and how to generate target reverse dial indicator readings when the thermal growth of the machine train is known. You will also have the opportunity to perform laser alignment using Bently Nevada's new laser alignment kit.

This course was formerly called Basic Alignment Workshop. It will be offered at the following locations:

• Sydney, Australia
• Houston, Texas, USA
• Al-Khobar, Saudi Arabia
• Minden, Nevada, USA
• Manila, Philippines
• Philadelphia, Pennsylvania, USA

For more information, contact your nearest Bently Nevada office, our Technical Training Department, or visit our website – www.bently.com. In the United States, call toll-free 800.227.5514 ext. 9682. Outside the United States, call 775.782.3611 or fax 775.782.9305.